

CULLUM MEMORIAL BUILDING AT WEST POINT.

L E T T E R

FROM

THE SECRETARY OF THE TREASURY,

TRANSMITTING

A COPY OF A COMMUNICATION FROM THE SECRETARY OF WAR
SUBMITTING A STATEMENT AS TO CERTAIN UNSATISFACTORY
CONSTRUCTION WORK AT WEST POINT.

JANUARY 7, 1902.—Referred to the Committee on Military Affairs and ordered to be
printed.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, January 6, 1902.

SIR: I have the honor to transmit herewith for the consideration of Congress copy of a communication from the Secretary of War of the 20th ultimo, forwarding papers relative to certain unsatisfactory construction work connected with the Cullum Memorial Building, for the consideration of Congress in connection with the estimates of appropriation for support of the Military Academy for the fiscal year ending June 30, 1903.

Respectfully,

L. J. GAGE,
Secretary.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

WAR DEPARTMENT,
Washington, December 20, 1901.

SIR: I have the honor to forward herewith copies of a communication with accompanying papers from Col. A. L. Mills, U. S. A., president board of trustees of Memorial Hall, West Point, N. Y., relative to certain unsatisfactory construction work connected with the Cullum Memorial Building, with request that they be transmitted to Congress

for consideration in connection with the estimates of appropriations for the support of the United States Military Academy for the fiscal year ending June 30, 1903.

Very respectfully,

ELIHU ROOT,
Secretary of War.

The SECRETARY OF THE TREASURY.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., December 2, 1901.

SIR: Referring to the letter of the Assistant Secretary of War, dated November 8, 1901, the board of trustees of Memorial Hall has the honor to make the following report and recommendation:

This building was begun by the Probst Construction Company, finished by their guarantors, the American Surety Company, accepted by the board of trustees December 13, 1898.

According to the terms of the contract, a guarantee fund of \$4,000 was retained from the final payment. This was to be paid to the contractors at the expiration of one year, provided that they had made all necessary repairs to certain specified work on the building and had left it in good order. (See Appendix A.)

During the year several defects were developed in the building; upon being duly notified the American Surety Company repaired most of them. On December 13, 1899, a letter was received from the surety company requesting the payment of the retained \$4,000. In answer to this the company was notified that the board of trustees could not recommend the payment of the money until the settlement of the front steps and the leakage in the loggia or terrace platform were repaired to the satisfaction of the board. (See Appendix B.)

During the summer of 1900 a representative of the American Surety Company stated to the board that the company would undertake the repairs if, on completion, the guarantee fund would be paid to them. The board of trustees having carefully considered the matter notified the company that if the repairs were made before September 1, and were in a satisfactory condition on December 13, 1900, the guarantee fund would be paid. (See Appendix C.) Upon this condition the repairs were made, and on December 4 the company applied for the payment of the guarantee fund. As the repairs were not in a satisfactory condition on December 13, 1900, the board declined the request. (See Appendix D.)

Since that time repairs have been made to the roof of the building, but the leakage through the loggia or terrace platform still continues.

A short time ago at the request of the surety company a representative of that company and one of the architects examined the present condition of the terrace with the board of trustees. After this examination the board requested from the architects an opinion in writing as to the cause of the leakage. (See Appendix E.)

The board of trustees does not, however, consider that the examination made by the representatives of the architects has satisfactorily established that the leakage is not due to imperfect workmanship and should not be repaired by the contractor.

As the entire terrace platform must be relaid to stop the leakage which appears more or less throughout its extent, and since the American Surety Company is unwilling to do this under the contract, the board recommends that the estimates for "improvement and repairs" for the United States Military Academy be increased by an amount sufficient to defray the cost of relaying the terrace platform in a satisfactory manner. When the old work is uncovered it can then be determined whether the leakage has been due to improper workmanship or to improper design, and thus fix the responsibility for it. Until that time the \$4,000 should be retained.

The estimated cost of this work is \$2,000. (See Appendix F.)

Very respectfully,

A. L. MILLS,

Colonel, U. S. A., President Board of Trustees.

The ADJUTANT-GENERAL UNITED STATES ARMY,

Washington, D. C.

[Second indorsement.]

WAR DEPARTMENT,

JUDGE-ADVOCATE-GENERAL'S OFFICE,

Washington, D. C., December 3, 1901.

Respectfully returned to the Adjutant-General of the Army.

Since the completion of the Cullum Building at West Point there has been a complaint of leakage in the terrace platform which surrounds the building on three sides and constitutes the roof of the sleeping rooms in the basement story. The board of trustees, after a careful investigation of the matter, finds that it is impossible to tell, without taking up the terrace pavement, whether the leakage is due to defective construction, to defect in design, or to the fact that a weather-proof roof can not be maintained under the conditions of weather and temperature to which the terrace is exposed in that climate. It is therefore suggested that an appropriation of \$2,000 be asked for with the view of reconstructing the terrace. If it be found that the leakage is due to defects in construction, it is recommended that the United States be reimbursed out of the sum of \$4,000 retained for that purpose. If it is found that the defect is in the design, and the responsibility is fixed upon the architects, they should be looked to for reimbursement. The recommendation of the board of trustees seems to be calculated to secure the public interests, and its approval is recommended.

GEO. B. DAVIS,

Judge-Advocate-General.

[Third indorsement.]

Respectfully submitted to the Secretary of War, concurring in the recommendation of the Judge-Advocate-General.

H. C. CORBIN,

Adjutant-General, Major-General, U. S. A.

ADJUTANT-GENERAL'S OFFICE, *December 3, 1901.*

A.

GUARANTY CLAUSE FROM CONTRACT MEMORIAL HALL.

At the end of each month the contractor shall submit a detailed statement of the material actually placed in the building during the month and the labor expended thereon, which statement shall be duly examined and checked by the architects. The architects shall then give to the contractor a certificate of the amount of work done and the value thereof, whereupon payment of the amount shall be made, less 10 per cent. The retained percentages, except \$4,000, shall be paid to the contractor thirty days after the final completion and acceptance of the building. This \$4,000 shall be paid to the contractor at the expiration of one year from the date of acceptance of the building, provided that he shall have kept the plastering, steam, plumbing, and roofer's work in repair during this period and shall leave it in good order. If he fails in this requirement the retained \$4,000 shall be forfeited to the United States.

No certificate given or payment made under this contract shall operate as or be held to be an admission by the party of the first part that this contract or any part thereof has been complied with, or that any detail of the work has been properly performed, in case the fact shall be otherwise.

B.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., December 15, 1899.

GENTLEMEN: Your letter of December 13, 1899, was referred to the board of trustees. The board invites your attention to the guaranty clause of the contract which requires you to have the building in good order at the expiration of one year. During the present year your attention has been invited to the settling of the steps, etc., and the leakage through the loggia tiling into the rooms below. The board regrets that it can not recommend the payment of the \$4,000 retained until the steps are put in good order and the board is satisfied that the leakage through the loggia tiling is permanently stopped. The clause of the contract, referred to above, reads as follows:

"This \$4,000 shall be paid to the contractor at the expiration of one year from the date of acceptance of the building, provided that he shall have kept the plastering, steam, plumbing, and roofer's work in repair during this period and shall leave it in good order."

I am, very respectfully, yours,

A. L. MILLS,
Colonel, U. S. A., Superintendent, President Board of Trustees.

The AMERICAN SURETY AND TRUST COMPANY,
New York City.

A true copy.

W. C. RIVERS,
Captain, First Cavalry, Adjutant.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
November 14, 1901.

C.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., July 21, 1900.

SIR: In answer to your letter of July 13, 1900, I have the honor to inform you that the board of trustees will return the deposit of \$4,000 on December 13, 1900, providing the repairs of stoop, roof, and terrace are begun at once and finished by September 1, and are satisfactory on the first date given. In connection with the repairs of

the terrace, the board would invite your attention to your special guaranty to replace all tiles found defective before December 13, 1900.

Very respectfully,

A. L. MILLS,
Colonel, U. S. A., Superintendent.

Mr. HENRY C. WILLCOX,
Solicitor, 100 Broadway, New York, N. Y.

A true copy.

W. C. RIVERS,
Captain, First Cavalry, Adjutant.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
November 14, 1901.

D.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., December 24, 1900.

DEAR SIR: Having reference to your letter of the 4th instant and the action to be taken to repair the leaks in Memorial Hall, to which attention was called in my letter of November 21, 1900, I have now to report that the recent repairs to the roof and terrace have not been done in such a manner as to insure permanent tightness.

The matter has also been considered by the board of trustees of the fund for the construction of Memorial Hall, and by them I am directed to say they regret the repairs of the roof and terrace of the hall were not in a satisfactory condition on December 13, 1900 (see your letter of July 13, 1900, and my reply, July 23, 1900), and in consequence the trustees are unable to turn over to your company the amount still retained.

The trustees hope the repairs will be made so as to stop the leakage referred to at an early date.

Very respectfully,

A. L. MILLS,
Colonel, U. S. A., President Board of Trustees.

Mr. HENRY C. WILLCOX,
Solicitor American Surety Company, 100 Broadway, New York, N. Y.

A true copy.

W. C. RIVERS,
Captain, First Cavalry, Adjutant.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
November 14, 1901.

NEW YORK, October 23, 1901.

GENTLEMEN: Referring to the outside terraces of the Cullum Memorial Building, from which there still seems to be trouble on account of leakage, we beg to state that in drawing the specifications for this part of the work we had in mind similar cases at Newport and on the Hudson, where work done under apparently the same conditions had proved successful, and from which we have had no complaint. From circumstances which we were unable to explain, the method seems to have proved inadequate in this particular case. Feeling that it might be the result of improper workmanship and materials, substantial repairs were made, as you remember, under our direction, but apparently without lasting results, although the work done at the time withstood the snows and frosts of one winter very well. We are forced to believe that the conditions are such that constant repairs must be made, or there must be a radical change in the method of construction, as the present one seems to be inadequate under the severe and unusual conditions to which the building is exposed.

As regards the foundations under the entrance buttresses, we would say that while the plans call for a foundation entirely adequate under ordinary circumstances, owing to the nature of the ground a settlement occurred, and it was found necessary to carry these foundations to a much greater depth. We think that the American Surety Company are entitled to compensation for this work, as an extra charge would have been made for it if called for under the original contract.

Respectfully,

McKIM, MEAD & WHITE.

THE TRUSTEES OF THE CULLUM MEMORIAL,
West Point, N. Y.

UNITED STATES MILITARY ACADEMY,
West Point, N. Y., November 16, 1901.

SIR: Complying with instructions of the Superintendent contained in letter of the 12th instant, I have the honor to submit the following estimates of cost for relaying the terrace platform of Memorial Hall.

Terrace platform of Memorial Hall.—The construction of this platform, as described in the drawings and specifications, consists of 6-inch I beams with flat arches of terracotta blocks, over which is about 6 inches of concrete followed by a waterproof coating of Neuchatel asphalt, and finally by tile laid in cement. The waterproof coating is supposed to be flashed into the main and parapet walls of the building. The surface of the platform is arranged in slopes draining from the building to the openings in the parapet walls.

The key point of the difficulty experienced with the present form of construction lies in the fact that the continuity of the platform, which covers the rooms below, is interrupted by the main and parapet walls, which leave joints difficult to render water-tight. The success of the plan specified depends upon the careful laying of the waterproof coating and the flashing at the vertical walls. This work is exceedingly troublesome, and even when carried out in the most conscientious and painstaking manner may result in failure. The correct principle in such cases is to carry the horizontal layer of masonry through the vertical walls, breaking the latter and not the former. It is now too late to effect a change in the principle of construction, and a water-tight platform must be sought by reconstructing the platform along the original lines, taking every possible precaution.

As the best of concrete is more or less porous, it alone can not be depended upon for water tightness, and some special waterproof layer will be required whether the platform be relaid in tiles or granolithic. The total thickness of the platform appears to be about 12 or 14 inches, of which 6 inches are taken up by the I beams and flat arches which can not very well be touched. Granolithic pavement should be a monolith at least 6 inches thick to prevent the formation of temperature cracks, and must in any case be divided into squares or rectangles of moderate size. Under these limitations the use of granolithic will necessitate placing the waterproof layer at a considerable depth below the surface where moisture, reaching it through the joints in the granolithic, will be more difficult to dispose of. Whether granolithic or tile pavement be adopted, I would propose the same system of waterproofing, viz:

1. Slope and smooth the foundation with Portland cement mortar.
2. Apply three coats of hot Bermudaz asphalt, dissolved in benzine, carrying the coats up the sides of the main and parapet walls as far as the raglets for the flashings.
3. Apply three layers of tarred paper, properly lapped and swabbed with hot tar and asphalt.
4. Cut raglets about 1 inch above final finished surface of tile or granolithic, in which wedge and secure a continuous copper flashing.
5. Cut grooves, or weep holes, through parapet walls at ends of drainage valleys.

Estimate for granolithic pavement.

Removal of present pavement down to terra-cotta arches.....	\$420. 00
251 square yards waterproofing, at \$1.50.....	376. 50
650 linear feet of copper flashing, at \$1.....	650. 00
251 square yards granolithic, at \$2.....	502. 00

Total..... 1, 948. 50

In round numbers, \$2,000.

Estimate for tile pavement.

Removal of present tile pavement, 251 square yards	\$251. 00
251 square yards waterproofing, at \$1.50	376. 50
650 linear feet of copper flashing, at \$1	650. 00
251 square yards tile pavement, at \$1.75	439. 25

Total..... 1, 416. 75

In round numbers, \$1,500.

Of the two methods I greatly prefer the tile pavement, as it brings the waterproof layer nearer to the surface.

Very respectfully,

JOSEPH E. KUHN,
Captain of Engineers.

The ADJUTANT UNITED STATES MILITARY ACADEMY.

A true copy.

W. C. RIVERS,
Captain, First Cavalry, Adjutant.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., December 2, 1901.

G.

AMERICAN SURETY COMPANY OF NEW YORK,
New York, November 12, 1901.

SIR: I am advised by the Assistant Secretary of War that my request for a copy of the communication sent you by Messrs. McKim, Mead & White has been referred to the board of trustees for investigation and report, and that a duly accredited representative of this company will be permitted to be present at such investigation as the board may find necessary to make, whereupon it is suggested that I correspond with you in this respect, and I have to-day written the Secretary of War acknowledging receipt of his communication, as per carbon copy of my letter to him herewith inclosed.

The board of trustees is so thoroughly familiar with the entire situation that I do not believe it will be necessary for me to be present "at such investigation as the board may find it necessary to make." Still, if I can be of any service or if it be necessary for me to attend, I will cheerfully do so.

My understanding of the situation is that the board of trustees decided that without the authorization of the War Department they could not furnish me with a copy of the letter referred to, and I infer that with such authorization the board would let me have such copy. Therefore I write again, trusting that under present conditions the board of trustees will see its way clear to furnishing me with a copy of the letter or communication from Messrs. McKim, Mead & White referred to in my letter sent you under date of October 29, 1901. You will readily see that it is practically impossible for me to intelligently prepare a proposition looking toward the doing away with the trouble now existing in the present condition of the terrace of the Memorial Hall without definite information concerning the position taken by the architects in regard to the cause of such trouble.

Yours, very truly,

HENRY C. WILLCOX, *Solicitor.*

Col. A. L. MILLS,

President Board of Trustees, Cullum Memorial Hall, West Point, N. Y.

A true copy.

W. C. RIVERS,
Captain, First Cavalry.

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